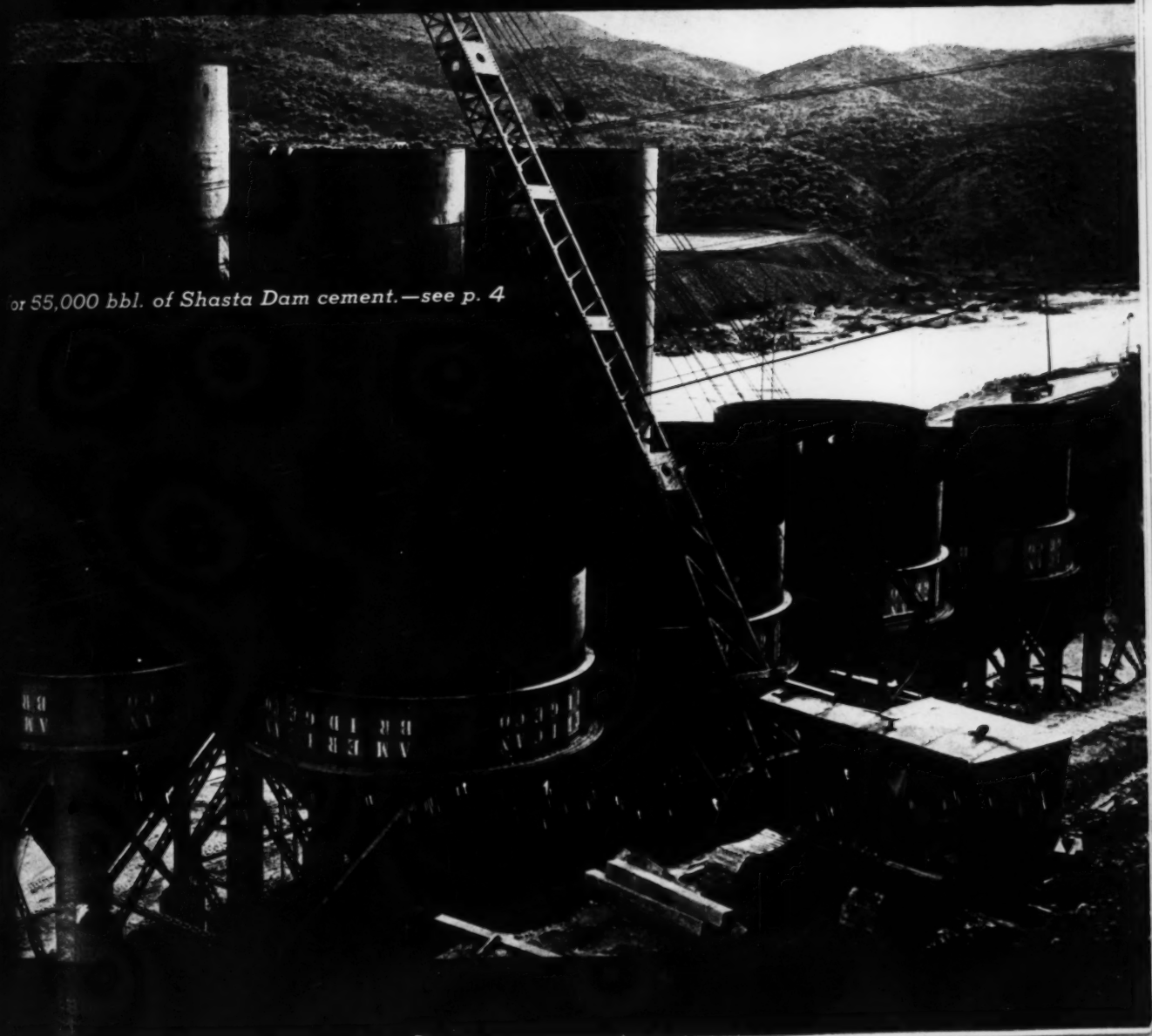
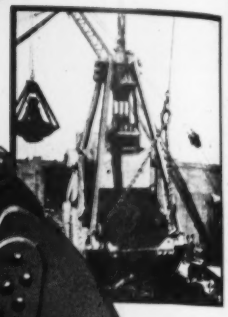
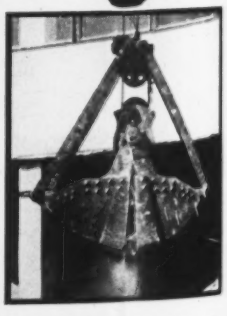
NEWS



or 55,000 bbl. of Shasta Dam cement.—see p. 4

YOU CAN'T BEAT HAISS Hi-Power FOR PAY LOAD DIGGING





That is SO, today! In the last two or three years, the Haiss Bucket has climbed right up to the top in contractor preference. The reason is simple . . . THE PRESENT-DAY HAISS BUCKET HAS ENOUGH MORE OF DIGGING POWER AND STAYING POWER TO MAKE THE DIFFERENCE COUNT. Look at the big, heavy lips and teeth—and non-clogging sheaves! In stock at New York, Hartford, Philadelphia, Harrisburg, Baltimore, Atlanta, Birmingham and Los Angeles.

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ENGINEERING NEWS-RECORD

NEWS

Volume 124 MAY 16, 1940 Number 20

NOTES ON THE NEWS

Quick Surveys of Construction Events

▶ Western Front warfare has settled its theater of operations in a territory whose recent engineering works have been widely discussed in this country. Most prominent is the welded Vierendeel girder bridge across the Albert Canal at Hassalt whose collapse, March 14, 1938, is still a live subject. News dispatches indicate the Belgians have blown up most of the 50 other bridges of this type that have been built over the canal in the past few years. The 100-mile Albert Canal itself was only dedicated in June of last year as a great shipping artery connecting Liege with Antwerp; its other primary purpose as a vital element of the main defense line in Belgium is now evident. Fighting across the River Maas in Rotterdam also recalls the great vehicular tunnel under construction there in which precast sections 200 ft. long, 80 ft. wide and 30 ft. high are sunk into place for the underwater portion. Additional articles on all three of these items are on News-Record's schedule for early publication, the Albert Canal next week.

▶ Encouraged by the campaign authorized at the Memphis convention in February against continuation of WPA large-scale appropriations, the board of the Associated General Contractors meeting in Milwaukee authorized a program to show the importance in the national economy of contract construction. Meeting in Washington, D. C., about the same time, the American Road Builders' Association also took steps for greater utilization of the contract system.

▶ Attempting to meet a June 22 paving deadline 25 contractors on the Pennsylvania Turnpike are placing 5 miles of two 24-ft. roadways daily. With 12,000 employed on the paving alone, the work is expected to be sufficiently complete for dedication by President Roosevelt July 4.

A.G.C. to Sell Contracting In Fight Against Day Labor

Attack on WPA methods to be followed by long-range program emphasizing importance of contract construction

Berkley Studios Photo

BARROWS TO RETIRE IN JUNE FROM M.I.T.

H. K. BARROWS, professor of hydraulic engineering at Massachusetts Institute of Technology and for 30 years connected with M.I.T., is retiring in June to become professor emeritus and honorary lecturer in civil engineering for the coming year. Barrows, who has maintained consulting offices in Boston since 1907 with an extensive practice in hydraulic engineering, water power, water supply and flood control, has been regional consultant for the National Resources Planning Board since 1934. In 1928-30 he acted as a member of the Advisory Committee of Engineers on flood control for the state of Vermont and as consultant for the committee, making a statewide report of his findings. He made a similar report for the state of New Hampshire in 1933 and for the state of Massachusetts in 1939. His consulting work will be continued.

Adopting a slogan "As the Construction Industry Goes, So Goes the Nation—and You" some 200 delegates to the spring board meeting of the Associated General Contractors of America devoted much of the three-day session at Milwaukee May 6-9 to formulating plans for meeting WPA and other day labor competition by a nation-wide educational and publicity program. The passing of PWA, a deficient private market, curtailment of federal expenditures for some lines of construction and the ever-increasing competition from WPA and other day labor operations are causing the contractors real worry about their future business opportunities.

While the details of the publicity program will be worked out by the publicity committee headed by Morris DeWitt of Kirkwood, Mo., and officials of the organization, discussion indicated that probably two general plans will be put into effect. First, public attention will be directed to the wasteful and inefficient methods of government in business through WPA construction by an immediate educational campaign carried out locally by the various chapters and branches. This would then be followed by a long-range national publicity program designed to show the important place of contract construction in the national economy. The general contractors hope that other elements of the construction industry will join them in supporting local, state and national candidates in the coming election that favor the contract system. Further consideration of the publicity program will be given at the fall board meeting scheduled for Sept. 20-Oct. 2 at Santa Fe, N. Mex.

H. B. Zachry, president, and E. J.

(*Continued on page 7*)

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Tackle Cost Allocation On Multi-Purpose Projects

Allocation of costs in federal multiple-purpose projects and questions of repayment policy are among the subjects being studied by a subcommittee of the Water Policy Committee of the National Resources Planning Board. As a result of the trend toward multiple purpose projects, water policy conflicts have developed between the U. S. Army Engineers and the Reclamation Bureau, and between other agencies. The current study is an attempt to eliminate these differences, and, insofar as possible, to enunciate a uniform water policy applicable to all agencies.

In regard to repayment policy, Gilbert White, secretary of the Water Policy Committee, points out that the Reclamation Bureau requires 100 per cent repayment of local contribution without interest, while on Indian projects, the federal government pays all the cost, except for operation and maintenance. The picture has been further complicated by the 1938 Flood Control Act under which the federal government eliminated local participation on most elements of flood control projects.

The question of power rates on multiple-purpose works will be left up to the National Power Policy Committee.

The study is being directed by H. H. Barrows, of the University of Chicago. Other members of the subcommittee are M. S. Eisehower, representing the Department of Agriculture; Federal Communications Commissioner James Lawrence Fly, former TVA chief counsel; Brigadier General Thomas M. Robins, assistant to the Chief of Engineers; John C. Page, chief of the Bureau of Reclamation; Judge Cliffort H. Stone, of the Colorado Water Conservation Board, and Leland Olds, chairman of the Federal Power Commission. Olds, as vice-chairman of the National Power Policy Committee, provides a link between the Water Resources Committee and the NPPC.

Lewis Van Carpenter, New York University, Dies

Lewis Van Carpenter, professor of sanitary engineering at New York University, died of heart disease on May 10. He was widely known in the waterworks and sewage disposal fields for his activity in research and in the training of plant operators.

Carpenter received the New York University appointment in 1935. Previous to that he served for twelve years on the faculty of the University of

LEWIS VAN CARPENTER

West Virginia where he was chairman of the department of civil engineering.

Before entering the teaching profession, Carpenter was a construction engineer on state and county highway work in West Virginia. He was born in Wheeling, W. Va., 45 years ago, and received his academic training at the University of West Virginia and the University of Illinois.

An aggressive advocate for the improvement of personnel engaged in plant operation, Carpenter supported legislation for licensing of water and sewage plant operators, and conducted many in-service training courses. In addition to this and regular academic duties in both the undergraduate and graduate divisions of New York University, he was director of research at the sanitary engineering laboratory conducted jointly by the university and the city of New York. Carpenter was directing a study of the land-fill method of refuse disposal (*ENR* March 2, 1939, p. 262) when he was taken ill last November.

• • •

California Offers to Buy Private Toll Bridges

The California Toll Bridge Authority on May 9 voted to offer the American Toll Bridge Corp. a total of $6,480,000 for the Carquinez and Antioch highway toll bridges which are operated by a private company on the state highway system. If the offer is accepted, funds for the purchase will be raised by revenue bonds which the authority is empowered by law to issue. The authority has assurance, it has been announced, that such bonds would be bid in at not to exceed 3 per cent commission.

• • •

Mat and Piles Support Aetna's New Building

Faced with the problem presented by two subway lines adjacent to the site of the new building of the Aetna Casualty & Surety Co. in New York, whose unusual glass block facade was pictured in *Engineering News-Record* last week on p. 628, the engineers worked out an interesting combination of mat and pile foundations that completely isolate the building loads from the subways. Rock being at more than 100 ft. depth, economy dictated the use of spread footings on the overlying sand, and the loads to be carried required that these footings virtually cover the entire site. Adjacent to the subways, however, spread footing loads were not permissible, since they would exert a horizontal thrust on the subway structure, and in this area concrete-filled steel piles were driven to a bearing below the subway floor. Some of the footings therefore are carried partly on sand and partly on piles.

There are other interesting engineering features in this building whose principal publicity so far has centered on its architecture. For example, T-flange girders are used in some of the grillages to secure large capacity with narrow simple flanges devoid of cover plates; columns are arranged in 22-ft. square panels, creating ideal conditions for the use of long span joist and tile floors with smooth ceilings; and cantilever construction supported

on double columns at either side permits the use of windows in the rounded exterior corners of the building.

Weiskopf & Pickworth, consulting engineers, New York, were responsible for the structural and foundation design of the building. Cross & Cross and Eggers & Higgins are the architects, Clyde R. Place, Inc., the mechanical engineers, and George A. Fuller the contractor.

Senate Follows House on Loans For Road Rights-of-Way

Permits RFC to aid states through loans for the purchase of land for right-of-way but eliminates loans to cities or counties for the same purpose that cuts out federal condemnation

Elimination by the House roads committee of Title II of the highway authorization bill, which dealt with aquisition of rights-of-way for express highways, and substitution of a simple clause permitting RFC loans guaranteed by federal-aid payments has been acceded to by Senator Carl Hayden, author of Title II and Senate specialist on road matters. The Senator has decided there is no chance for a successful fight on the issue and last week introduced a new authorization bill copying the House committee version except that amounts are left open.

Though loans for right-of-way are still in the bill, the present version does not provide for use of the federal power of condemnation in cases where the state condemnation law is clumsy. Moreover, the present bill provides only for loans to states, whereas under the original Title II cities or counties could borrow. This matter, of course, is primarily of interest to municipal areas where land costs are high.

How loan terms would be effected by the substitution is not clear. Title II set forth very favorable terms, but the new clause would leave the terms to the discretion of RFC.

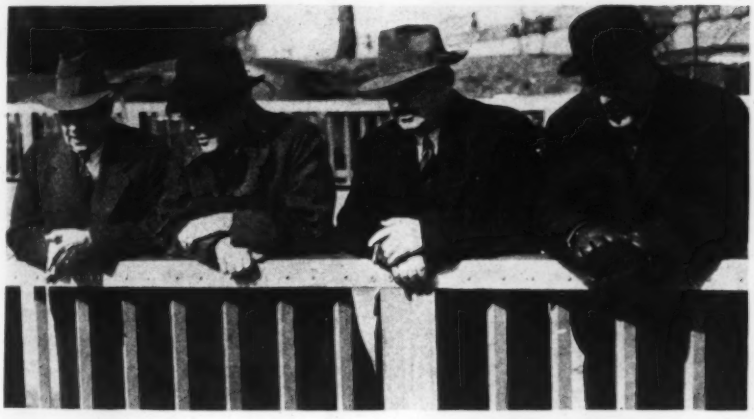
It appears likely that the dispute over the amounts to be authorized will follow the pattern of 1938, when the House passed a bill using the 1936 figures which was later reduced in the Senate. Indications now are that the $224,000,000 of authorizations in the House committee bill will be cut in the Senate, perhaps to the current $158,500,000 level. The President's known dislike of large road authorizations makes a veto likely if the bill passes with the larger figures, and this late in the session it would be nearly impossible to override a veto.

• • •

Alabama Bridge Commission Held Constitutional

The attorney-general of Alabama has ruled that the Alabama Bridge Commission was constitutionally created, following a query by the RFC as to its legality. RFC has agreed to lend the commission $900,000 for construction of a toll bridge between Mobile mainland and Dauphin Island in Mobile Bay.

WASHINGTON GOES UNDER ONE OF ITS OUTMODED CIRCLES



CONGESTION of traffic at Thomas Circle in Washington, D. C. has been relieved by completion of a $500,000 underpass to carry traffic on Massachusetts Ave. beneath Vermont Ave., 14th St. and M St. Building of the underpass is the first step being taken by district officials to adapt Major l'Enfant's plan of radial highway traffic circles to modern traffic requirements.

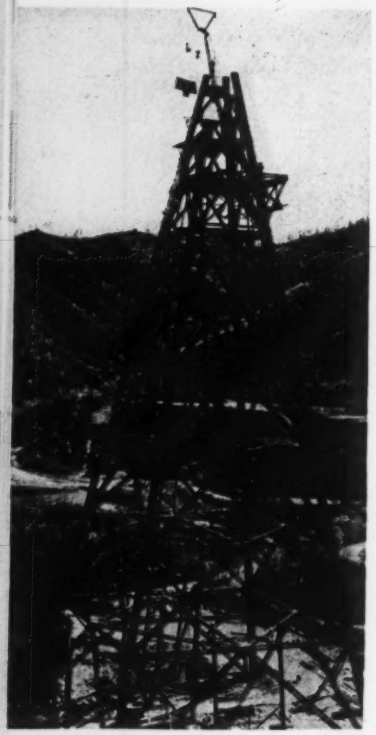
Overall length of the work, is 1,000 ft. with the double concrete box being 415 ft. in length. Two lanes of traffic in each direction are provided.

The work was done for the Commissioners of the District of Columbia by the department of highways under the direction of H. C. Whitehurst, director of highways; C. R. Whyte, engineer of bridges; and M. G. Tayman, resident engineer.

Plans were prepared by Parsons, Klapp, Brinckerhoff & Douglas, consulting engineers of New York; James Stewart & Co., New York, was the contractor with James M. Cunningham superintendent.

Shown inspecting the new work are (right to left) L. D. Smooth, of the highway department; Whitney Leary, chairman, Traffic Advisory Council; Traffic Director William A. Van Duzer, and H. C. Whitehurst, director of highways.

Getting Set for Shasta Concreting



THIS 460-ft. head tower on west abutment will provide common support for seven cableways to convey concrete from the mixing plant at the lower left.

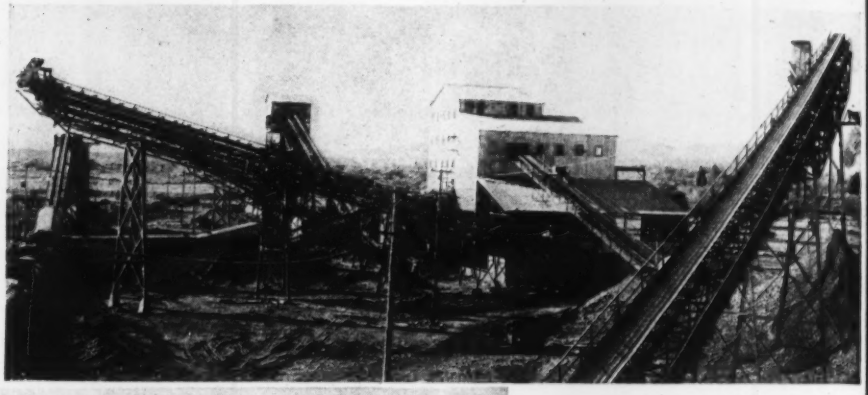
ALTHOUGH 100,000 cu.yd. of excavation for the abutments and 250,000 cu.yd. for the spillway section of the Bureau of Reclamation's $80,000,000 Shasta Dam on the Sacramento River in California remained to be done May 1, placing of concrete may be started by the middle of June.

Fine and coarse aggregate is being obtained from deposits on the Sacramento River near Redding. From the process mill the aggregate will be transported to a point about one mile downstream from the damsite by a 9.6-mile conveyor. From the track hopper a second belt conveyor system 2,000 ft. long will transport the aggregate to live storage piles of 150,000 tons capacity; a 4,000-ft. conveyor will transport the material from here to the mixing plant on the west abutment of the dam.

Bulk cement will be unloaded into ten blending and storage silos, each of 5,500 bbl. capacity, and then pumped 3,000 ft. to the mixing plant.

From the mixing plant, which is to have an installation of five 4-yd. mixers and requires only finishing touches to be ready for service, concrete will be transported to all parts of the dam by seven radial cableways.

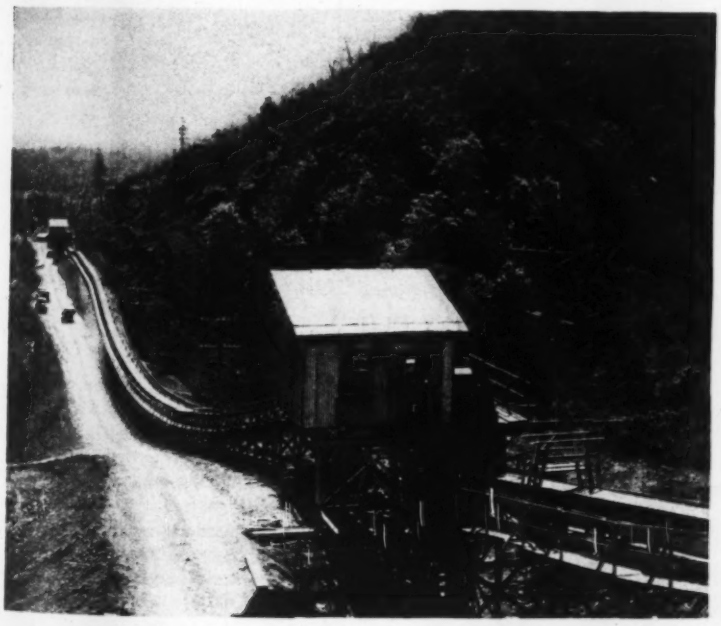
For the Bureau of Reclamation Ralph Lowry is construction engineer of Shasta Division and Grant Bloodgood is in charge at the dam. Pacific Constructors, Inc., are general contractors and Columbia Construction Co., Inc., is the aggregate supply contractor.



PLANT for supplying necessary aggregate is located near Redding, several miles from the damsite. Belt conveyor 9.6 miles in length will move fine and coarse aggregate to track hopper installation about one mile downstream from the damsite.

WHERE SHASTA DAM will rise 560 ft. above Sacramento River to provide 4,500,000 acre-feet of storage for flood control and power. At right is 460-ft. head tower of cableway system.

LIVE AGGREGATE storage area about one mile below damsite is shown at right. From tunnel under stockpiles a 4,000-ft. belt conveyor will transport aggregate to mixing plant on west abutment. In left foreground 10 cement blending and storage bins, each of 5,500 bbl. capacity, are under erection. Cement will be pumped 3,000 ft. to mixing plant.



AGGREGATES ARE to slide across nearly ten miles of hills on a 36-in. belt conveyor, a section of which is shown here. The conveyor system comprises 26 units. Twenty-three of these are powered by 200-hp electric motors, and three downhill conveyors are used to generate electricity. Sections vary in length from 340 to 1,158 ft. Aggregate haul begins at an elevation of 490 ft., carries through a pass at 1,450 and delivers to live storage at 650 ft.

McLaughlin Air Service Photo

PENN TURNPIKE PAVING UNROLLS AT 5-MILE-A-DAY CLIP

TWENTY-FIVE paving contractors employing 12,000 men on 28 different contracts, believed to be the largest paving organization ever assembled, are now paving five miles of four-lane pavement every day in an attempt to meet a June 22 deadline on the Pennsylvania superhighway being built between Harrisburg and Pittsburgh. Most of the contractors are paving 12-ft. lanes but at least two are paving 24-ft. lanes.

Last week 29 paving machines, including 17 dual drum 34E pavers, 11 single drum 27E pavers, and one dual drum 27E paver, were being used. However, with the last seven paving contracts begun this week, still more equipment was placed in service.

On May 10 955,000 sq.yd. or 33.9 mi. of the 4,330,000 sq.yd. total had been paved.

The 160-mi. project is being done by the Pennsylvania Turnpike Commission at a cost of $70,000,000. Samuel W. Marshall, Harrisburg, is chief engineer.

A.G.C. to Sell Contracting

(Continued from p. 1)

Harding, managing director of the association, reported the campaign authorized at the Memphis convention in February against continuation of WPA large-scale appropriations was highly successful in execution, although, the results will remain in doubt until Congress votes on the matter.

Labor relations

Ever since the Atlantic City meeting in October, 1937, when labor relations were authorized as an association activity, the subject has been an outstanding topic at A.G.C. sessions. From the labor report presented at the Milwaukee meeting, prepared by E. P. Palmer, New York, chairman of the labor committee, it is apparent that labor relation activities have settled down to a satisfactory routine. The jurisdictional dispute settlement plan, worked out last August by the A.G.C. and the Building Trades Dept., AFL., has prevented stoppage of work because of such disputes except in rare instances. The labor committee continues to work on the proposition of uniform hours for all trades on a project, and continuation of wage scales for the life of a construction contract. The only action taken toward labor was a resolution denouncing the attempt to establish a 30-hr. week in construction as impracticable and uneconomical; the resolution opposed any further reduction in hours of work, and called for the re-establishment and maintenance of an 8-hour day for all trades.

Other business

A rather pessimistic outlook as to future markets for contract construction was presented in a discussion of the trends in building, heavy and highway construction. One report revealed that 40 per cent of WPA workers are now engaged in street and road work. Construction for national defense might partly offset the loss in public works occasioned by the end of PWA, but a tendency of the army and other government departments toward day labor operations on such projects was noted.

New specifications

The joint A.G.C.-A.A.S.H.O. cooperative committee on standard highway specifications presented a tentative draft of the specification clauses on determination and extension of contract time, prepared from a concensus of answers to a questionnaire on the subject sent to state highway engineers and contractors. Briefly, the tentative specifications permit extension of time in case of performance of greater quantities than those originally specified, suspension of major items of work by the engineer, delay caused by unusual weather, strikes except those caused by improper action of the contractor, acts of the government or any political subdivisions, floods, earthquakes, and other acts of God. No extension of time will be given because the contractor believes the time specified to be too short; he is to consider such time limits when bidding, and if he is unable to equip or prosecute the job to meet the schedule, it is considered the contractor's own fault and he must accept the consequences.

S. M. Siesel, Milwaukee, presented a plea for a streamlined specifications system, whereby the excess wordage and ambiguous terms of present specifications would be replaced by clear, concise statements whose meaning could not be misconstrued by either party.

The fall meeting will be held at Santa Fe, N. Mexico, Sept. 30-Oct. 3. The week of Feb. 17, 1941, has been chosen for the next annual convention, to be held at Houston, Tex.

Use Contract System on Relief Jobs Say American Road Builders

Statewide highway planning and amendment of the Wage and Hour law also emphasized by resolutions

Greater utilization of the contract system in connection with relief projects was urged in a formal resolution adopted at the 39th annual meeting of the American Road Builders Association in Washington, D. C. May 7-10. The importance of statewide highway planning studies and amendment of the Wage and Hour law by administrative action to relieve injustices affecting highway construction was the subject of another resolution.

The George S. Bartlett award for the year's outstanding contribution to highway progress was given to Robert Moses, Commissioner of the Department of Parks, for the city of New York.

Highway Information Service Photo

They discussed transportation by land, air and water. Car Wood, (left) manufacturer of Detroit, Mich.; Hal G. Sours, chief engineer of Ohio State Highway Department, and new A.R.B.A. president, Senator Pat McCarran of Nevada, and Murray D. Van Wagoner, retiring president of the A.R.B.A.

At the President's Dinner May 9, Murray D. Van Wagoner, who has served as president for two years, turned the office over to H. G. Sours, chief engineer of the Ohio State Highway Department. Sours suggested that the word "appropriation" be replaced by "investment" when referring to federal funds for highways. Sours held that any money expended for highways is a good investment in that the users return the capital expenditure and the public receives in addition the benefits of employment, national defense and better postal service.

Thomas H. MacDonald, head of the Public Roads Administration, speaking at the dinner said the easy things have been done in road building.

Representative Wilburn Cartwright, chairman of the Roads Committee, stated that he could see no reason why Congress should not appropriate for roads as much as highway users pay in but he said it is necessary to be realistic about the matter and that half of what you want is better than having all of nothing.

Petty differences should not be allowed to defeat needed legislation, was the view expressed by Van Wagoner. He predicted that highway traffic will

(Continued on p. 11)

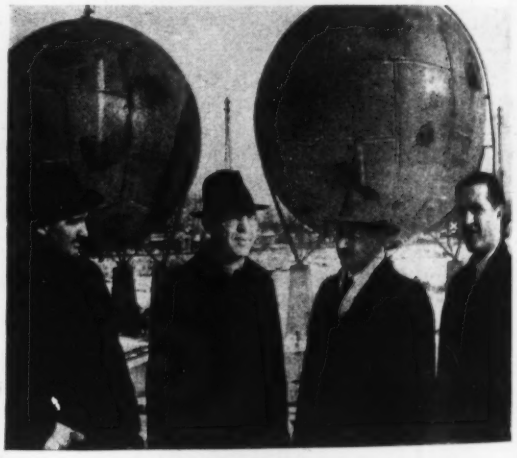
Top men on the top work. Superintendent **Fred Then,** left, of John G. English Inc. and Joseph Nestor Co. contractors for the concrete deck, and **G. C. Lane** in charge of superstructure erection for Bethlehem Steel Co. were snapped together on the $4,670,000 Thomas A. Edison Bridge, high above the Raritan River near Perth Amboy, N. J. The largest girders ever erected in this country, 260 ft. long and 20 ft. deep, are used on their job.

Coordinator extraordinary, both during and after construction of a new $4,000,000 food market and terminal at Kansas City, Kan., **William J. Nauman, Jr.,** displayed such skill in correlating operations of twenty some contractors while he was serving as chief resident engineer-inspector for PWA that the city has retained him as coordinating engineer for the completed project. Details of the work are given in the Jan. 11, 1940 issue of *ENR.*

Chairman **Eugene C. Hultman** (left), Boston Metropolitan District Water Supply Commission, talks things over with **Karl R. Kennison,** who last year succeeded the late Frank E. Winsor as chief engineer of the commission. Kennison, a graduate of Colby College and M. I. T., for several years was associated with the late John R. Freeman. He has been with the commission since 1926, having been made assistant chief engineer in 1934.

MEN AT WORK

Geo. H. Hefeley (left), director, bureau of bridges; **Nathan Deutschman,** resident engineer; **G. E. Wheeler,** geologist; **Homer R. Seely,** deputy commissioner; **Clinton D. Hanover,** bridge design engineer; **J. Frank Johnson,** chief engineer, all of the New York City Dept. of Public Works, and **Joseph Meltzer,** National Excavation Co., contractor, recently got together to inspect foundation conditions at the Dutch Kills Crossing of the Midtown highway approach to the Queens-Midtown Tunnel. Work is well under way on several contracts expected to complete the Queens approaches to the tunnel by early fall.



Not the New York World's Fair with a shrunken trylon and a second perisphere but two tanks for gas from the digesters of the new Rock Island sewage treatment plant, which is 50 per cent complete. **R. Cook (left),** resident engineer, and **George Brunkhorst,** supervising engineer, are showing the plant to a couple of visiting engineers from the local U. S. Engineer Office, **T. D. Rodhouse, Jr.** and **J. Stuart Meyers,** assistant engineer and associate hydraulic engineer respectively. Rodhouse is secretary-treasurer and Meyers president of the newly established Tri-City Section of Am. Soc. C. E.

MEN AND JOBS

LIEUT. CECIL J. ESPY, JR., civil engineer corps, U. S. Navy, has been transferred from the Navy Yard, Puget Sound, Wash., to duty in the Sixteenth Naval District, Cavite, Philippine Islands.

LIEUT. WILLIAM I. BROWN, civil engineer corps, U. S. Naval Reserve, has been ordered to report for temporary active duty at the Naval Training Station, Newport, R. I. Brown has been employed by the Bureau of Reclamation at Denver, Colo., as assistant engineer.

OSCAR C. KALBFLEISCH has been appointed superintendent of the municipal water department of Mansfield, Ohio, to succeed JAMES E. WARRACK.

G. R. HAWORTH, engineer of maintenance of way with the Western Maryland R. R., has been appointed general superintendent to succeed ARTHUR WILLIAMSON, who died recently after 35 years of service with the Western Maryland. Haworth was appointed engineer of maintenance of way four years ago, having been with the railroad since 1911 in various engineering capacities. He worked for a time with the U. S. Engineers and the Pennsylvania State Highway Department.

EDWARD B. BOYLE, of Hazleton, Pa., has begun new duties as engineer's assistant on the engineering staff of the Pennsylvania General State Authority.

MYRON GROSECLOSE, district area engineer for WPA at Oklahoma City, has resigned to do consulting work at Oklahoma City, Okla.

HARRY JENSEN, office and designing engineer for the board of education at Oklahoma City, has resigned to enter private architectural practice at Oklahoma City. Jensen had been with the board of education for eight years.

LIEUT. FRANK C. TYRRELL, civil engineer corps, U. S. Naval Reserve, has been ordered to report for temporary active duty at the Bureau of Yards and Docks, Navy Department, Washington, D. C. Tyrrell's home is in Denver, Colo.

LIEUT. JULIAN W. SILLIMAN, civil engineer corps, U. S. Naval Reserve, has been ordered to report for temporary active duty at the Naval Training Station, Newport, R. I. Lieut. Silliman is from Sacramento, Calif.

FRANK E. CLOUGH, city engineer of South Pasadena, Calif., since 1926, has begun new duties as city manager of South Pasadena. He replaces B. A. GARLINGHOUSE, who has resigned.

M. J. GOUDEAU, Opelousas, has been named civil engineer for No. 1 Sewer District at Melville, La. An election will be held May 21 to vote on issuance of $30,000 of bonds for construction of a sewage disposal system.

SAMUEL C. CANNON, superintendent of public works at Middletown, Conn.; LINUS BALDWIN, contractor of Middletown, and WILLIAM T. TOWNER, architect of that city, have been named members of the city's first building code commission.

JAMES H. MOREHOUSE is now acting as resident engineer for the Harris Structural Steel Co., New York, in charge of construction of a bridge across the Potomac River about 50 miles southeast of Washington, D. C. Morehouse, formerly with the Aluminum Co. of America, Pittsburgh, was designing engineer with Allegheny County, Pa. for a time. He was also employed by the Allegheny County Authority on the Highland Park Bridge and the Homestead high level bridge at Pittsburgh.

MAJ. HAROLD STETSON, construction quartermaster at Lowry Field, Denver, has been transferred to Monterey, Calif. where he will serve as construction quartermaster. Maj. Stetson, who has been at Lowry Field for the past three years to direct some five million dollars of construction, is being succeeded by MAJ. CARL H. JABELONSKY, now in charge of construction of the three million dollar Fitzsimmons hospital near Denver. Maj. Jabelonsky will continue in charge of the Fitzsimmons hospital work.

BRUCE NORFOLK, civil engineer of Denver and formerly with the PWA as construction engineer, has accepted a position as designing engineer with the Climax Molybdenum Co. at Golden, Colo.

JOHN E. FIELD, consultant on hydraulic and irrigation work with the Public Works Administration in Washington, D. C. for the past four years, has returned to Denver, Colo. to open consulting offices to specialize in hydraulic work.

JAMES HEITMAN has been appointed city engineer at Mount Vernon, Wash. to succeed JOHN MEEHAN, who has retired because of ill health. Heitman was previously with the Washington State Highway Department, serving as chief engineer on a bridge project at Sultan.

LESLIE R. THOMPSON, civil and consulting engineer of Montreal, Que., has been appointed comptroller and secretary of the department of munitions and supply at Ottawa.

MAJ. JOHN E. HARRIS has been named WPA field engineer in Mississippi to succeed JULIAN WHELESS. Maj. Harris, a graduate of the U. S. Military Academy at West Point, served as regimental commander during the World War. He was named director of the WPA project Control Division in Washington, D. C. in 1935.

FRANK J. CONNOR, veteran superintendent of the municipal sewage disposal plant at Sioux Falls, S. D. and one of the city's oldest employees, resigned last week. Connor went to work for the city of Sioux Falls in 1907, following 11 years as superintendent of the waterworks at Faribault, Minn. where he had been waterworks superintendent for 11 years. Connor was superintendent of the Sioux Falls waterworks for 19 years before being placed in charge of the Sioux Falls sewage disposal plant in 1926.

W. C. FAWCETT, location engineer for the Ohio State Highway Department since 1922, was honored by fellow employees in the central office at Columbus April 25 when he retired after 31 years of state service. HAL SOURS, assistant state highway director, presented Fawcett with a gold watch, a gift of his associates. Fawcett first worked for the highway department in 1906, serving as road engineer in Belmont County.

A. R. SHEPARD, Washington, D. C., consultant from the office of the Chief of Engineers, U. S. Engineers, has been placed in charge of seismic studies as part exploration work in determining the best dam sites on the Buffalo River near Lone Rock, Okla. in Baxter County. CAPT. LEE B. WASHBOURNE is executive officer of the Little Rock district office, which is in charge of the project.

DON JOHNSTONE, for the past two years assistant editor for *Civil Engineering*, resigned April 1 to become assistant professor at Ohio State University. Johnstone, a graduate of the University of Illinois, worked with the U. S. Engineers and the Bureau of Reclamation before being employed by the Am. Soc. C. E. at the society's headquarters in New York. He is being succeeded by DONALD T. BARNES, who has been employed by the Bureau of Reclamation at the California Institute of Technology.

MEETINGS

BUILDING OFFICIALS CONFERENCE OF AMERICA, Hotel Jefferson, St. Louis, Mo., June 3-6.

AMERICAN INDUSTRIAL HYGIENE ASSOCIATION, annual meeting, Hotel Pennsylvania, New York City, June 4-6.

NATIONAL CONFERENCE ON PLANNING, San Francisco, Calif., June 8-12.

AMERICAN SOCIETY FOR TESTING MATERIALS, annual meeting, Atlantic City, N. J., June 24-28.

SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION, annual meeting, University of California, Berkeley, Calif., June 25-28.

AMERICAN SOCIETY OF CIVIL ENGINEERS, annual convention, Denver, Colo., July 24-26.

ELECTIONS AND ACTIVITIES

NEW YORK STATE SOCIETY of Professional Engineers, Commodore Hotel, New York City, May 24-25.

AMERICAN WATER WORKS ASSOCIATION, New Jersey Section, spring meeting, Stacy-Trent Hotel, Trenton, N. J., May 22.

INTERNATIONAL FEDERATION OF ARCHITECTS, ENGINEERS, Chemists and Technicians, fifth national convention, Hotel Pennsylvania, New York City, May 31-June 2.

AMERICAN WATER WORKS ASSOCIATION, New York Section, spring meeting, Ithaca, N. Y., June 6-7.

PENNSYLVANIA SEWAGE WORKS ASSOCIATION, 14th annual conference, Pennsylvania State College, State College, Pa., June 26-28.

PUBLIC HEALTH WORKERS AND SANITATION OFFICERS, Texas Technological College in cooperation with the Texas State Health Department and the Texas State Department for Vocational Education, Lubbock, Tex., June 6-July 15 (first term) and July 16-August 23.

ELECTIONS AND ACTIVITIES

THE ANNUAL MEETING of the Ontario General Contractors Association was held in Toronto April 30 with A. R. Timms of Welland being re-elected president. J. L. Lynch, of Toronto, was named vice president, and Tullis Carter, also of Toronto, treasurer.

NEW OFFICERS of the Western Society of Engineers elected at Chicago for the year 1940-41 are: E. Gordon Fox, Freyn Engineering Co., president; F. H. Lane and F. G. Gordon, vice presidents; and P. R. Ellstrom, treasurer. Trustees are Kendrick Harger and C. Earl Webb. J. R. Hosson and F. A. Rogers were named members of the Washington Award Commission. Leigh H. Keith is secretary of the organization.

A SERIES of nine regional meetings being sponsored by the Illinois State Department of Public Health, division of sanitary engineering, for swimming pool operators will be topped off June 4-5 by the second annual swimming pool conference at the University of Illinois, Urbana.

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Registration Examinations

LOUISIANA: Civil engineers and surveyors, New Orleans, May 22-24.

IOWA: Professional engineers, June 4-5; land surveyors, June 6, State House, Des Moines, Iowa.

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Engineering Conferences

SECOND ANNUAL SURVEYING CONFERENCE, sponsored by the New Jersey Society of Professional Engineers, Rutgers University, New Brunswick, N. J., May 18, 1940.

MANAGEMENT CONFERENCE, sponsored by Stevens Institute of Technology, Johnsonburg, N. J., June 22-23.

Wyatt Davis Photo

THESE MEN ARE RESPONSIBLE FOR OUR WESTERN HIGHWAYS

WHEN the Western Association of State Highway Officials met at Santa Fe, N. M., last month for its 19th annual convention, all 12 member states were well represented; 112 official delegates registered. B. G. Dwyre, New Mexico state highway engineer, was elected president; C. F. Seifried, Wyoming highway department office engineer, vice-president, and H. R. Flint, Idaho highway director, secretary-treasurer.

Speakers included: Congressman Wilburn Cartwright of Oklahoma; N. F. McCoy, senior highway engineer, Public Roads Administration; F. J. Grumm, engineer of surveys and plans, California; H. T. Hunt, California; E. B. Bail, New Mexico; Henry F. Cabell, president of the American Association of State Highway Officials; H. G. Sours, American Road Builders Association; C. B. McCullough, assistant state highway engineer, Oregon; W. C. Markham, executive secretary of the A.A.S.H.O.; L. I. Hewes, Public Roads Administration; Sidney J. Williams, director of public safety activities, National Safety Council; Ernest W. Everly, A.G.C.; R. A. Allen, retiring president; and E. C. Knowlton, retiring secretary, treasurer.

Road Builders Meet

(Continued from p. 7)

double in the next twenty years and that ways and means must be found to keep building abreast with that demand. After revealing that the association had decided to establish a planning and research division, Van Wagoner urged that the association continue the selling job begun for it by Willard Chevalier, vice-president, McGraw-Hill Publishing Co., when he was president of the association.

House Action Seen As Killing Omnibus Transportation Bill

Rejects conference committee version of bill to place island waterways under ICC

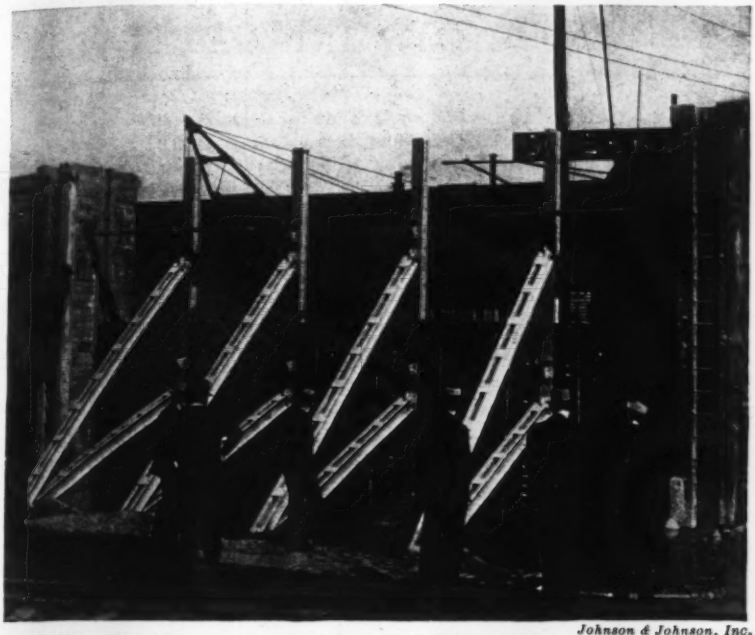
The Wheeler-Lea omnibus transportation bill was killed last week, for all practical purposes, when the House of Representatives rejected the conference committee version of the measure. The bill, which was passed by both houses a year ago, would have brought inland waterway transportation for the first time under the jurisdiction of the Interstate Commerce Commission and would have made moderately important changes in railway regulation. For the past year a conference committee under the leadership of Senator Wheeler has been trying to reconcile the divergent House and Senate versions.

The bill was opposed by waterway interests, who feared that ICC regulation would mean rate increases to reduce the competitive advantages over railways. It was also suspected, on the basis of ICC's adverse recommendation last year on the Beaver-Mahoning Canal, that the commission is unsympathetic to the philosophy that waterways should be built to reduce rail rates by competition.

Most powerful opposition to the conference bill, however, came from the railroad brotherhoods. As passed by the House the bill contained a provision that consolidation of rail lines must not result in loss of jobs. This was deleted in conference, and the brotherhoods opposed the bill without it.

In returning the bill to conference, the House insisted that this clause be re-inserted as well as a similarly deleted section which would have guaranteed continuance of low water rates as long as carriers did not operate at a loss.

It is considered most unlikely that the conference committee can report out another bill before the end of this session which probably has only about a month to run. Except in this unlikely eventuality, the bill will die with this Congress, and the next Congress will have to start all over again on transportation legislation.



Johnson & Johnson, Inc.

OHIO RIVER HAS DOOR SHUT IN ITS FACE AT HUNTINGTON

ALTHOUGH Ohio River floodwaters of a few weeks ago were 6½ ft. above flood stage at Huntington, W. Va., they were turned back successfully by the new dikes, walls and floodgates built there by the Army Engineers during the past three years. Particularly effective was the functioning of the 22 floodgates that close highway and railway openings in the walls. Consisting of aluminum trestles and timber stop logs the gates were speedily set in place in less than an hour by volunteer labor. Requirements laid down for the design of the gates had been that they should have the simplest of mechanical details; that they should stand storage for long periods of time without maintenance; that they should be light enough to be assembled by hand; and that they not only should be safe and strong but that they should look the part. This first use of the gates demonstrated that they meet all of these requirements in first-class fashion.

The trestles are made of extruded 27 S-T aluminum painted with an iron-oxide zinc chromate primer and two finish coats of aluminum. For low heads the vertical members or beams are set in recesses in the concrete foundation and function as simple cantilevers while for higher heads, that is, between 12 and 21 feet., they are braced by inclined struts. The beam section used is 10 in. deep with unbalanced flanges 6 and 8 in. wide, and is one of the largest extrusions ever made of aluminum for structural purposes. The unbalanced section makes it easy to set the stop logs in the recess between the flanges and provides maximum strength with a minimum amount of metal. The inclined struts consist of two channels spaced by batten plates to receive clips that connect to the beams. Connections between the verticular beam, struts and foundation are made by steel pins.

With flood danger over, the gates were returned to concrete storage rooms adjacent to each location, to remain until the next emergency.

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Tolls Reduced Again On San Francisco Bay Span

Tolls on the San Francisco-Oakland Bay Bridge will be reduced from 35 c. to 30 c. on May 25 according to a decision on May 9 by the California Toll Bridge Authority. This reduction, which is the fourth since the bridge was opened with 65 c. tolls, is timed to coincide with the opening of the 1940 Golden Gate Exposition.

OBITUARY

CHRISTOPHER E. SHERMAN, 70, professor emeritus of civil engineering at Ohio State University, where he had been a member of the faculty since 1896, died May 6 in Columbus. For 36 years Sherman was chairman of the department of civil engineering, relinquishing his post in 1938 to continue teaching until 1939 when he received his emeritus rank. Since 1902 Sherman had been a member of the engineering staff of the Ohio Co-operative Topographical Survey.

GEORGE W. TILLSON, 87, retired civil engineer who served from 1895 to 1918 as chief engineer of the Bureau of Highways of the boroughs of Manhattan and Brooklyn, New York City, and for a time acting commissioner and consulting engineer of the Brooklyn department of public works, died May 13 in LaGrange, Ill. Tillson, educated at Bowdoin College, at one time was city engineer of Omaha, Neb. He helped direct the reconstruction of the highways of France following the World War. Tillson was director of the American Society of Civil Engineers from 1907 to 1909 and treasurer 1917-1918.

BENN DUFFIELD, for the last 4½ years engineer with the Work Projects Administration for Kings and Tulare counties in California, drowned in the Pacific Ocean May 3.

ROBERT B. FARWELL, 69, civil engineer who supervised the building of some of Boston's first tunnels, died in Boston last week. Farwell, who graduated from Worcester Polytechnic Institute in 1893, soon afterward became associated with the Boston Transit Commission to be with that organization for 40 years.

DAVID J. ROSE, 78, general contractor, died in Rocky Mount, N. C., May 8. Early in life Rose was in the general contracting business with S. S. Toler, dissolving the partnership 25 years ago to go in business with his sons.

THOMAS B. WEBBER, 77, civil engineer of Louisville, Ky., who practiced in Mexico for many years, died May 2 in Mexico City.

DANIEL C. BORTON, 77, retired civil engineer, died May 5 at Alliance, Ohio. Borton, who began his engineering career in Oklahoma in 1889 laying out the city of Guthrie, Okla., served as assistant city engineer at Alliance before going to Massillon, Ohio, as city engineer. In 1901 he was named chief engineer for the M. H. Hanna Co., Cleveland; from 1931 to 1934 he acted as chief engineer for the Ohio and Pennsylvania Coal Co.

LEE CLAYTON MORGANROTH, 66, retired chief engineer of the Harbison-Walker Refractories Co., died May 5 in Philadelphia. Morganroth for a time acted as an engineer for the Lehigh Coal & Navigation Co., joining the old Harbison-Walker Co. in 1898 to be associated with this firm and its successor company until retiring in 1930. He was officer in the 15th Engineers, U. S. Army, going to France with some of the earliest American troops.

JACOB BAUER, New Jersey state highway engineer for many years, died May 15 in Westfield, N. J. Bauer in 1898 was named engineer of Union County, N. J., leaving to become state highway engineer in 1929. He was president and treasurer of Bauer & King, civil engineers and surveyors.

CONTRACTS AND CAPITAL

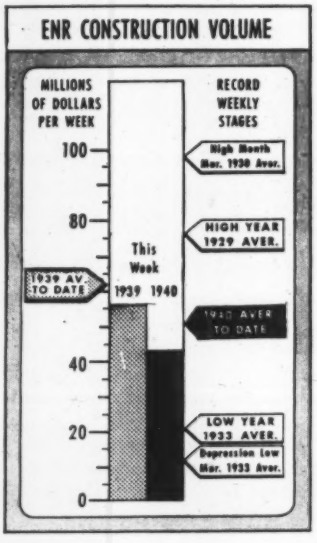
FOR THE SEVENTH successive week private engineering construction awards top their respective values for 1939. They are 26 per cent above the corresponding 1939 week, and 16 per cent above last week. A decrease of 34 per cent in public construction compared with last year, and 23 per cent compared with last week, offset the private gains, and resulted in declines of 17 per cent and 9 per cent, respectively, in the total construction volume as against a year ago and a week ago.

The 1940 construction volume, $1,014,421,000, is 17 per cent below the level for the 20-week period last year. Private awards, however, top the 1939 cumulative total by 17 per cent. Public construction is 28 per cent below the period a year ago.

In the classified construction groups, gains over the preceding week are in waterworks, sewerage, industrial buildings and unclassified construction. Gains over the 1939 week are in industrial buildings, commercial building and large-scale private housing, earthwork and drainage, and streets and roads.

New capital for construction purposes for the week totals $75,532,000, an increase of 308 per cent over the volume reported for the corresponding 1939 week. The week's new financing is made up of $65,580,000 in municipal short-term loans for USHA housing projects, $6,486,000 in state and municipal bonds, and $3,466,000 in corporate security issues.

New construction financing for the year to date total $478,725,000.



CONTRACTS

(Thousands of dollars)

	Week Ending May 18 1939	May 9 1940	May 16 1940
Federal	$3,412	$7,534*	$4,672
State & Municipal	36,090	26,023*	21,914
Total public	$39,502	$33,557	$25,986
Total private	16,511	17,821	20,754
TOTALS	$56,013	$51,378	$46,740
Cumulative 1940 (20 weeks)			$1,014,421
Cumulative 1939 (20 weeks)			$1,223,507

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial building, $40,000; other buildings, $150,000.

* Revised.

NEW PRODUCTIVE CAPITAL

	Cumulative 1939 20 Wks.	1940 20 Wks.
NON-FEDERAL	$502,494	$478,725
Corp. Securities	114,170	74,144
State & Mun.	272,141	320,639
R.E.A. loans	27,147	...
U.S.H.A. loans	88,712	78,430
R.F.C. loans	234	5,512
FEDERAL	$311,427	$...
TOTAL CAPITAL	$813,831	$478,725

FHA MORTGAGES

	Week Ending May 13 1939	May 4 1940	May 11 1940
Selected for appraisal	$25,727	$30,555	$29,545*
Cumulative 1940 (19 weeks)			$443,999*
Cumulative 1939 (19 weeks)			$439,140

* Subject for revision.

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	May '40	238.86	114.52
Building Cost	May '40	201.17	108.75
Volume	Apr. '40	191	84

CONTRACT UNIT PRICES

What contractors are bidding on different kinds of construction work

FULLERTON DAM, CALIFORNIA

OWNER: U. S. Engineer Office, Los Angeles, Calif.; Lt. Col. E. C. Kelton, district engineer.

PROJECT: Construction of Fullerton Dam, earth-fill type, on East Fullerton Creek, one-half mile north of Pioneer Ave. and Associated Rd., Fullerton, Calif., for flood control. Single zone of impervious material obtained from required excavations. Crest length at top 590 ft.; maximum height above valley floor 45 ft. Embankment drain to be constructed. Riprap on upstream slope, rock or gravel blanket on downstream slope. Water passed by dam through outlet works in right abutment, and spillway in left abutment. Outlet works consist of one ungated opening and two gated openings. Gates controlled by hoists in control house. Approach and discharge channels, and stilling basin construction included in contract.

CONDITIONS: Government to furnish cement and service gates and accessories. Contractor to furnish balance of material and complete all work in 270 calendar days. Various roads available for transportation, and A.T.&S.F. RR station about three miles from site of work. Wage rates stipulated are: skilled, $1.37½ per hr.; semi-skilled, $1.00; and common, 62½¢. per hr.

BIDS: Eleven bids were opened April 25, 1940, ranging from the low of $234,903 to $348,660. Government estimate $261,500.

LOW BIDDERS:

1. Charles U. Heuser, Glendale, Calif. (contract) . $234,903
2. Morrison-Knudsen Co., Inc., Los Angeles, Calif. 247,288
3. Daley Corp., San Diego, Calif. 259,211

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Remove existing obstructions	L.S.	$3,000 00	$1,000 00	$1,750 00
2. Clear and grub	L.S.	2,000 00	1,000 00	1,500 00
3. Stripping	15,000 c. y.	.20	.11	.20
4. Common excavation, unclass	192,000 c. y.	.20	.14	.17
5. Struct. excavation unclass	5,700 c. y.	.50	.50	.55
6. Steel bearing piles	2,800 l. f.	3.00	2.40	2.40
7. Splice steel bearing piles	45 ea. spl.	10 00	4.50	4.00
8. Steel bearing pile caps	90 ea.	2 00	3.30	6 00
9. Steel sheet piles, 35#/ s. f.	2,900 s. f.	1.50	1.70	1.65
10. Steel sheet piles, 32#/ s. f.	2,300 s. f.	1.40	1.50	1.55
11. Struct. backfill, uncompacted	3,700 c. y.	.05	.15	.10
12. Struct. backfill, compacted	11,300 c. y.	.40	.45	.45
13. Fill in embankment, dam.	104,000 c. y.	.06	.06	.10
14. Fill in embankment, road	11,000 c. y.	.06	.06	.06
15. Roll, add'l two trips	206,000 sq.	.01	.01	.01
16. Rock fill in aprons	550 c. y.	2.50	3.30	2.50
17. Riprap	6,000 c. y.	2.50	2.80	2.30
18. Gravel blanket, riprap backing	4,700 c. y.	1.40	1.75	1.80
19. Sand, gravel in filters and drains	1,050 c. y.	2 60	2.10	1 90
20. Gravel backing	475 c. y.	1.70	1.80	2.00
21. 12-in. grouted rock paving	175 sq.	30 00	30.00	25 00
22. 18-in. grouted rock paving	20 sq.	40 00	40 00	35.00
23. 18-in. perf. metal pipe	400 l. f.	2.25	2.50	2.00
24. 4-in. tile drains	150 l. f.	.12	.30	.50
25. 6-in. tile drains	350 l. f.	.16	.40	.50
26. 8-in. tile drains	450 l. f.	.25	.50	.50
27. 4-in. vitr clay ppe	150 l. f.	.25	.40	.50
28. 12-in. corr metal ppe	235 l. f.	1.50	1.70	1.50
29. 36-in. rein. conc. pipe	100 l. f.	6.00	7.00	6.00
30. Concrete, slabs, aprons, cut-offs, and misc. struct	2,450 c. y.	6.00	6.25	9.50
31. Concrete, intake, conduit, walls, bridge superstr	2,850 c. y.	12 00	18 00	15.50
32. Concreting service gate recesses	15 c. y.	25 00	30 00	20 00
33. Steel reinforcement	725,000 lb.	.035	.035	04
34. ½-in. fibre expan. joint filler	3,200 s. f.	.12	.45	.12
35. ½-in. fibre expan. joint filler	1,250 s. f.	.15	.50	.15
36. 1-in. cork expan. joint filler	50 s. f.	.60	1.20	1.00
37. Copper water stops	575 lb.	.50	.70	.50
38. Steel water stops	4,600 lb.	.08	.12	.25
39. Rubber joint seal	40 l. f.	5.00	4.50	4.50
40. Misc. black steel pipe	2,500 lb.	.13	.11	.12
41. Misc. galv. steel pipe	700 lb	.13	.18	.12
42. Misc. wr. iron pipe	2,600 lb.	.30	17	.25
43. 12-in. cast iron pipe, Cl. 150	5,470 l. f.	3 00	3 00	2 80
44 12-in. cast iron pipe, Cl. 250	56 l. f.	3 00	4 50	3 25
45. Inst. service gates accessories	23,000 lb.	025	03	04
46. Gasoline-elect. generator set	L.S.	3,500 00	3,500 00	3,500 00
47. Switchboard	L.S.	1,100 00	1,500 00	1,400 00
48. Conduit for electr. wiring	4,000 lb.	20	55	40
49. Lighting and power system	L.S.	1,300 00	2,000 00	1,980 00
50. Underground power service	L.S.	800 00	700 00	680 00
51. Misc. structural steel	80,000 lb.	08	09	09
52. Miscellaneous metal	38,500 lb.	12	14	17
53. 12-in. gate valve	1 ea.	300 00	300 00	325 00
54. Misc. brass and bronze	10 lb.	60	2 00	5 00
55. Bridge railing	200 l. f.	2 00	4 00	2 50
56. Plant-mixed surfacing	5,300 s. y	.40	60	60
57. Gravel road surfacing	3,000 s. y.	.50	.50	.50
58. Guard posts and rails	2.5 Mbm.	100 00	120 00	125 00
59. Fencing	1,150 l. f.	50	50	45
60. Control house	L.S.	2,500 00	2,000 00	3,000 00
61. 12-in. pipe clamps	5 ea.	10 00	10 00	10 00
62. 1½-in. stop and waste valve	2 ea.	10 00	5 00	5 00
63. 2-in. plug valve	1 ea.	7 00	6 00	6 00
64. 2½-in. plug valve	1 ea.	9 00	10 00	10 00
65. 3-in. plug valve	3 ea.	12 00	12 00	12 00
66. 4-in. expansion joint	1 ea.	20 00	20 00	20 00

CONTINENTAL DIVIDE TUNNEL COLORADO

OWNER: U. S. Bureau of Reclamation, Colorado-Big Thompson Project, Denver, Colo.; Porter J. Preston, supervising engineer.

PROJECT: Construction of eastern section of Continental Divide Tunnel from station 618 + 39 to 698 + 39. Includes excavation of all classes in tunnel, steel tunnel supports, timbering, steel tunnel-liner plates and grouting. This section, about 9,000 ft. long, is portion of 13 mile tunnel from Grand Lake to Estes Park, Colo.

CONDITIONS: Contractor to furnish all material except cement for grouting and pipe and fittings for permanent installations in connection with pressure grouting operations. Work to commence within 30 days after notice of award and be completed within 430 calendar days. Access to work from existing highways to be provided by contractor. Diversion and care of Wind River also to be handled under this contract. Wage rates prevailing are: skilled, $1.10 to $1.50 per hr.; semi-skilled, 80 to 95c.; and common, 62½ to 70c. per hr. Amount of work required depends on conditions encountered in construction of tunnel. Conditions are impossible of predetermination. Quantities shown on schedule not to be construed as actual amount required, as they are for comparing bids only.

BIDS: Thirteen bids were received April 8, 1940, ranging from the contract low of $471,123 to $713,000.

LOW BIDDERS:

1. S. S. Magoffin Co., Inc., Englewood, Colo. (contract) . $471,123
2. J. F. Shea Co., Inc., Los Angeles, Calif. 509,580
3. The Gordon Constr. Co., Denver, Colo. 534,450

Item	Quan.	Unit Prices (1)	(2)	(3)
1. Excavation, all classes, tunnel	38,100 c. y.	$9.33	$10.60	$11.00
2. Furn. and install permanent steel tunnel supports	900,000 lb.	.08	.075	.08
3. Furn. and erect permanent timbering in tunnel	320 Mbm.	80.00	75.00	90.00
4. Furn. and inst. steel tunnel-liner plates	100,000 lb.	.07	.08	.08
5. Drill grout holes, under 10 ft	3,000 l. f.	1 00	1.00	.50
6. Place grout pipe and conn	1,100 lb.	.50	.20	.50
7. Pressure grounting	3,000 c. f.	2.50	1.00	1.50

CONSTRUCTION REPORTS

Compiled by BUSINESS NEWS DEPARTMENT
Engineering News-Record, 330 W. 42nd St., New York
ELSIE EAVES, MANAGER
SCOTT McLEOD, STATISTICIAN
(Daily service also available—Write for details)

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

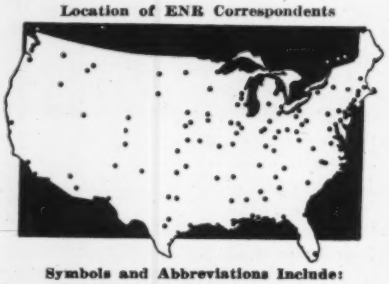
Classes of Construction
(Named in order of Listing)

Water Supply	Unclassified
Sewers, Waste Disposal	Latin America
Bridges, Grade Cross'gs	Public Buildings
Streets & Roads	Commercial Buildings
Earthwork, Waterways	Industrial Buildings

Stages Reported

PROPOSED: (except Streets & Roads); BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR); LOW BIDDERS: All low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published. CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Location of ENR Correspondents



Symbols and Abbreviations Include:

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD Engineering News-Record Construction Daily

Dates shown are of issue in which last previous report was published.

WATER SUPPLY

PROPOSED WORK

Calif., Fresno—Fresno Co. Waterworks Dist. 1, Fresno, 400,000 gal. ground level water storage tank, Fig Garden Area. Funds available.

★**Calif., Los Angeles**—Los Angeles City Harbor Dpt., City Hall, new construction during fiscal year 1940-41 tentatively budgeted, incl. water disposal sys. at Fish Harbor $420,000, ferry terminals $200,000, yacht mooring facilities $125,000, fire wall, Berth 60, $20,000, also includes $662,619 for operation and administration, $600,000 for maintenance and $523,823 for interest on bonds. A. Eldridge, City Hall, port mgr.

Fla., Riviera—Bond election May 28, water plant and distr. sys. $60,000.

Me., Farmington—Farmington Village Corp., Water Dpt., 1 story, bsmnt., 61x63 ft., brick Water Dpt. service station, concrete fdn. A. J. Harriman, 11 Lisbon St., Lewiston, archt.

Mo., St. Louis—B. L. Brown, pres. Bd. Pub. Serv., 304 City Hall, 9 mi. 12 in. c.i. watermain from Kingshighway Blvd. and Loughborough Ave., St. Louis, to Koch Hospital, Koch. $244,000.

N. J., East Brunswick—Watermains in 5 streets, hydrants, valves, $57,199. J. H. Weitzen, Smith and Hobart Sts., Perth Amboy, WPA and owner's engr.

O., South Amherst—Deep well water sys., storage tank, pump. station, distr. sys. $70,000. Will apply for WPA funds. C. J. Simon, Evans Central Bldg., VanWert, engr.

Okla., Vinita—Voted bonds exten. WW. $32,000., Holway & Neuffer, 302 E. 18 St., Tulsa, engrs. CD 4/25—ENR 5/2.

Tex., Denison—C. Scott, mayor, indefinitely postponed taking bids to have been opened May 10, water filtration plant, imprvs. A. M. Brenneke, city engr. CD 4/25—ENR 5/2.

Tex., Fiskville — Travis Co. Water Control & Imprvt. Dist. 2, $200,000 bond election June 1. WW sys.

Tex., Lufkin—C. L. Stine, city mgr., WW sys. exten. $40,000.

†**Tex., San Antonio**—Con. Q.M., Fort Sam Houston, bids soon drilling, casing, testing 1 or more deep water wells on Army Reservation. $16,500.

Tex., Weatherford—C. F. Russell, mayor, bids soon WW imprvs., brick pumphouse, well pump. unit, relining large water reservoir, etc. A. C. Moore & Co., 2404 Smith-Young Tower, San Antonio, engrs.

Wash., Longview—Water filtration plant. $95,000 bonds approved. O. C. Schoenwerk, 3240 N. Lake Shore Dr., Chicago, Ill., engr. J. Jones, city engr. CD 4/5—ENR 4/11.

Wash., Mount Vernon — Skagit Co. Public Utility Dist., Mount Vernon, connecting Mt. Vernon, Sedro Woolley and Burlington water sys., developing new source of supply, exten. sys., replacement old mains. $230,000.

★**Wash., Seattle**—King Co. East Side Metropolitan Water Dist. 59, c/o H. Holland, Bellevue, water sys. to serve towns of Kirkland, Medina, Bellevue, Juanita, Redmond and Kenmore. $1,100,000. Seeking WPA funds, Parker & Hill, Smith Tower, engrs.

Wash., Spokane—360x690 ft. reservoir covered with concrete slab supported by concrete posts. $250,000. A. D. Butler, City Hall, engr.

Alta., Edmonton—Bids soon, water softening plant and storage tank. $142,000. M. C. Dewar, City Hall, engr.

Alta., Edmonton—Water Comn., City Hall, water softening and storage plant. $142,000. M. C. Dewar, 501 Civic Block, engr.

N. S., Halifax—W. P. Publicover, city clk., water supply sys. for Lemico sub-div. on North Gottingen St. $20,000. W. H. Johnstone, City Hall, engr.

Ont., Newmarket—N. L. Mathews, town clk., bids soon pump. station, approx. 1½ mi. watermains. About $25,000. D. Crowder, Newmarket, engr. CD 5/17/39—ENR 5/25/39.

Que., Brownsburg—G. D. Ball, mayor, voted bonds, water and sewerage sys. $150,000, Gohier & Dovais, 10 St. James St. W., Montreal, engrs. CD 5/2.

Que., Montreal—3 pumps for WW low level station. $41,400. J. E. Blanchard, City Hall, dir. P. Wks.

Que., Malartic — W. Hetherington, mayor, bids soon, filtration plant. About $60,000.

Que., Montreal—J. E. Ganthier, city clk., electrical installations at Cote des Neiges and MacTavish water reservoirs. $53,000. J. E. Blanchard, City Hall, dir. P. Wks., and engr.

BIDS ASKED

Bids Asked May 22

†**R. I., Newport**—P. Wks. Officer, Naval Training Station, drilling well 400 ft. deep, Torpedo Station, Gould Island, Spec. 9871.

Bids Asked May 24

Pennsylvania—Pennsylvania Turnpike Comn., P. B. Noftsker, secy.—treas., 11 N. 4 St., Harrisburg, deep wells at 8 interchange ticket offices and at 5 maintenance buildings, also deep well pumps at same; deep well pumps at 13 tunnel portal buildings, Sect. 4PW. S.W. Marshall, c/o owner, engr.

Pa., Phila.—Dpt. P. Wks., City Hall Annex, J. H. Neeson, dir. in charge, c.i. watermains, intercepting manholes. Over $15,000.

Bids Asked June 11

†**Fla., Jacksonville**—P. Wks. Officer, Naval Air Station, Federal Bldg., water sys., sanitary and storm sewers, sewage pump. station, underground concrete water reservoir, etc., Spec. 9788. Extended date. CD 4/30—ENR 5/2.

LOW BIDDERS

Calif., Santa Rosa—City Council, May 7, watermains, lateral connections, etc., from H. E. Conner, 1222 Whipple Ave., Redwood City, **(a)** steel pipe, **$50,852 (b)** transite pipe **$56,256** and **(c)** c.i. pipe **$59,301.** CD 4/26.

N. J., Newark—City, May 6, section 7 St. aqueduct under D.L.&W. R.R., sinking two 50 ft. shafts, tunnel 110 ft. long for 300 ft. 48 in. steel watermain, from John Washbourne, 224 Madison Ave., New York, N. Y. **$47,985.** CD 4/23—ENR 4/25.

N. Y., New York—Comr. Water Supply, Gas & Electricity, Municipal Bldg., May 8, furnishing, del., laying steel and c.i. watermains, appurtenances, Central Park and 5 Ave., from Atlas Water Works Corp., 71 West 23 St. **$79,800.** CD 4/26—ENR 5/2.

CONTRACTS AWARDED

Fla., Miami Beach—C.i. mains, own forces. Over **$25,000.** C. W. Tomlinson, City Hall, clk.

†**Ill., Chicago**—U. S. Eng., 922 Post Office Bldg., water supply and sewer sys. La-Grange Lock, Illinois Waterway, Illinois River, in Beardstown, to F. M. Luth, 4125 Flora St. St. Louis, Mo. **$28,500.** Awarded 4/24. CD 2/2—ENR 2/8, under Illinois.

Kan., Garden City — Watermain extens., sanitary sewers, **WPA. $50,000.** CD 5/6—ENR 5/9.

Miss., Leland—J. D. Winter, Leland, imprv. WW. **WPA. $30,000.** CD 4/9—ENR 4/11.

N. Y., Binghamton — Additional reservoir, pump house. **WPA. $30,000.** C. W. Post, Old P. O. Bldg., Albany, ch. engr. WPA projects.

Okla., Seminole—Drilled wells, pumps, motors, pump houses, pipe line connections for 2 wells, **WPA. $72,100.** Benham Eng. Co. Fidelity Bldg., Oklahoma City, engrs. CD 2/6—ENR 2/8.

Pa., Knox—Boro, 3 story, 15x22½ ft., brick and cement filtration plant at municipal reservoir, own forces under supervision W. B. Rossman, supt. **$15,000.**

Sask., Arcola—8,800 ft. 6 and 8 in. c.i. watermains, day labor under supervision C. E. G. Reed, engr. **$20,000.**

Sask., Saskatoon—Watermains, connections, to N. Senick, 119 Avenue L. Est. **$15,000.** G. D. Archibald, City Hall, engr.

SEWERS, WASTE DISPOSAL

PROPOSED WORK

Ala., Albertville—Sewerage treatment plant, WPA. J. W. Goodwin Eng. Co., Martin Bldg., Birmingham, **engr.**

Ariz., Tucson—Bids within 20 days, sewers in Drachman-Adams St. dist., also paving blocks in same area. $33,600. G. W. Seeley, city engr.

Ark., Rogers — Sewage disposal plant complete with auxiliary equip., piping, appurtenances sanitary sewers, $40,000-$50,000. Johnson & Robinett, Landers Bldg., Springfield, Mo., engrs.

★**Calif., San Francisco**—City and San Francisco Co., $662,950 bond election in August or November, for sewer rehabilitation and $610,750 bonds, sewage plant imprvs. incl. installation street lighting units (underground system). CD 10/4/38—ENR 10/6/38.

Fla., Jacksonville—Sewer pump. facilities, sewers, Main Street Estates development, etc. Over $25,000.

Fla., Miami—Sea Bay Corp., c/o J. Hurt, J., 303 A Surfside Blvd., storm sewers in new development near 69 St. causeway. Over $50,000.

Fla., Miami—Bd. Comrs. Dade Co., Court House, special election May 28 to vote on construction sanitary facilities, beach area, near Bakers Haulover. Over $25,000.

Ill., Morton—Sewage treatment plant with auxiliary equip., piping, etc. Over $100,000. L. B. Kinsey, 512 Court St., Pekin, engr.

Mass., Southbridge—Water Dpt., Town Hall, preliminary survey, etc. sewage treatment plant. Over $25,000. Greeley & Hansen, 6 N. Michigan Ave., Chicago, Ill., engrs.

Minn., Cokato—A. M. Anderson, village clk., voted $90,000 bonds, and bids soon, sewage disposal plant, Toltz, King & Day, 1509 Pioneer Bldg., St. Paul, engrs. CD 11/8—ENR 11/16.

Minn., Little Falls—O. J. Plettl, city clk., surveys sewage disposal plant. $250,000. A. R. Marquardt, city engr.

N. J., Cranford—Vitr. tile sanitary sewer in Lambert St., Wade and Adams Aves. $58,000. J. H. Weitzen, Smith and Hobart Sts., Perth Amoy, WPA and owner's engr.

N. J., Elizabeth—Rein.-con. relief storm sewer in W. Grand St. $51,380. J. H. Weitzen, Smith and Hobart Sts., Perth Amboy, WPA and owner's engr.

N. J., North Brunswick—3,000 ft. 16 in. force and 7,900 ft. 8 and 15 in. vitr. tile sewers. $58,471. J. H. Weitzen, Smith and Hobart Sts., Perth Amboy, WPA and owner's engr.

N. J., Union—3,841 ft. rein.-con. storm sewer, concrete curbing, penetration macadam paving, vitr. tile sanitary sewer, manholes, etc. $56,980. J. H. Weitzen, Smith and Hobart Sts., Perth Amboy, WPA and owner's engrs.

N. Y., Binghamton—City of Binghamton, City Hall, storm water sewer to Chenango River, Port Dickinson. $225,000. J. A. Giles, city engr.